

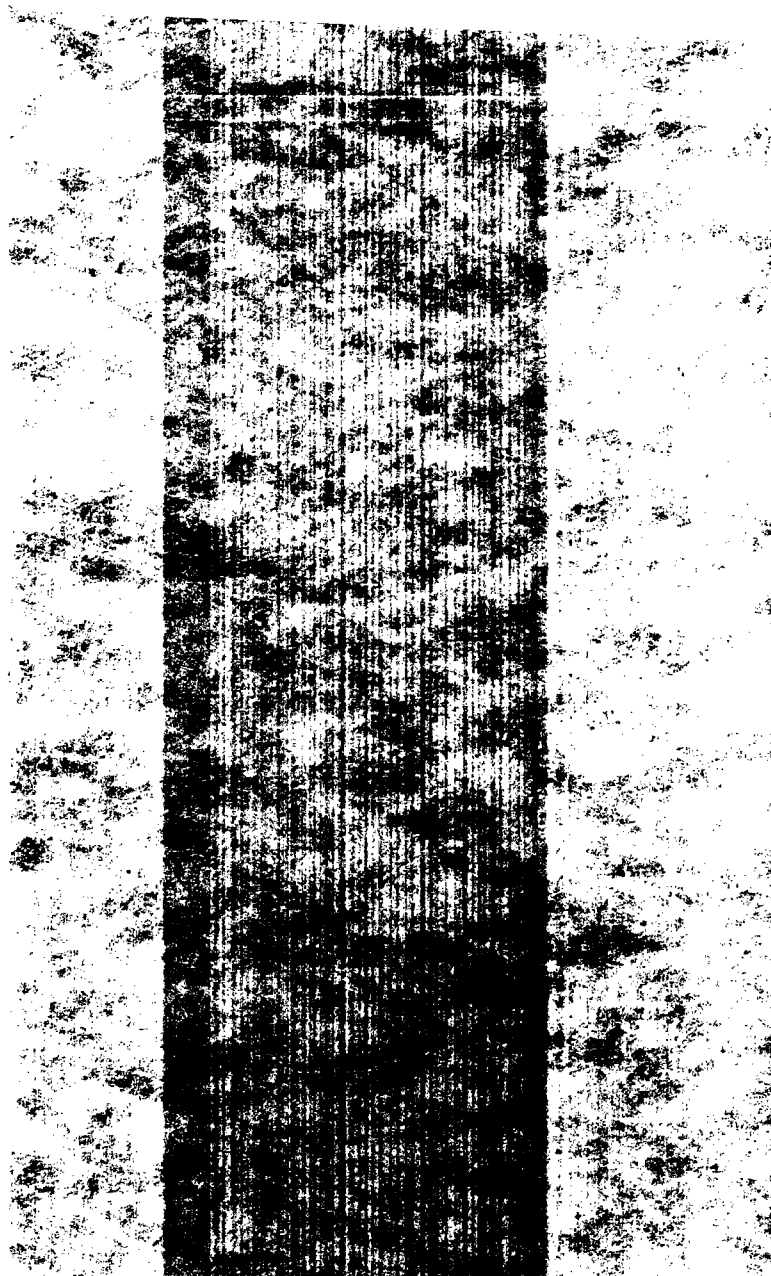
US EPA RECORDS CENTER REGION 5



466423

PHOTOGRAPHIC LOG

Log #10 - 1hr #1



PHOTOGRAPH LOG ROLL 10
AMERICAN CHEMICAL SERVICES

| <u>Photo Number</u> | <u>Description</u> | <u>Date</u> |
|---------------------|--|-------------|
| R10-1 | Location of MW-07, initial location, ACS & Piezometer P-7 in background. | 3-7-90 |
| R10-2 | Location of MW-07, initial location, view to north. | 3-7-90 |
| R10-3 | Split spoon sample of MW-7, 10 to 12 feet. | 3-7-90 |
| R10-4 | Split spoon sample of MW-7, 10 to 12 feet. | 3-7-90 |
| R10-5 | Location of MW-7, view to north, piezometer P-8 in background. | 3-7-90 |
| R10-6 | Split spoon sample of MW-7, 17 to 19 feet. | 3-7-90 |
| R10-7 | Split spoon sample of MW-7, 19 to 21 feet. | 3-7-90 |
| R10-8 | Location of MW-8, view to northeast from piezometer P-28. | 3-8-90 |
| R10-9 | Split spoon sample of MW-8, 10 to 12 feet. | 3-8-90 |
| R10-10 | Split spoon sample of MW-8, 15 to 17 feet. | 3-8-90 |
| R10-11 | Split spoon sample of MW-8, 20 to 22 feet. | 3-8-90 |
| R10-12 | Outer casing of MW-7, grouted in place. | 3-8-90 |
| R10-13 | Mixing grout of MW-08. | 3-8-90 |
| R10-14 | Tim Maley of WEI measuring specific gravity of grout. | 3-8-90 |
| R10-15 | Grouting outer casing of MW-08. | 3-8-90 |
| R10-16 | Pounding outer casing of MW-08 into clay. | 3-8-90 |
| R10-17 | Grouted outer casing of MW-08. | 3-8-90 |

G2066

4500-09-ABOW

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20th Century Plastic
1-800-421-4662

STOCK # VB



R10-2

SSX 30 11 1-2 1 1 2

R10-1

SSX 30 11 1-2 1 1 2

R10-4

SSX 30 11 1-2 1 1 2

R10-3

SSX 30 11 1-2 1 1 2



R10-6

255 02 11 1-2 1-1 2

R10-5

255 02 11 1-2 1-1 2

R10-8

255 02 11 1-2 1-1 2

R10-7

255 02 11 1-2 1-1 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R10-10

355 02 11 1-2 1 N 2

R10-9

355 02 11 1-2 1 N 2

R10-12

355 02 11 1-2 1 N 2

R10-11

355 02 11 1-2 1 N 2

20th Century Photo
1-800-421-4662

STOCK # V84



R10-14

2 1 1 2-1 11 30 55X

R10-13

2 1-1 2-1 11 30 55X

R10-16

2 1 1 2-1 11 30 55X

R10-15

2 1-1 2-1 11 30 55X



R10-17

255 02 11 1-2 1-1 2

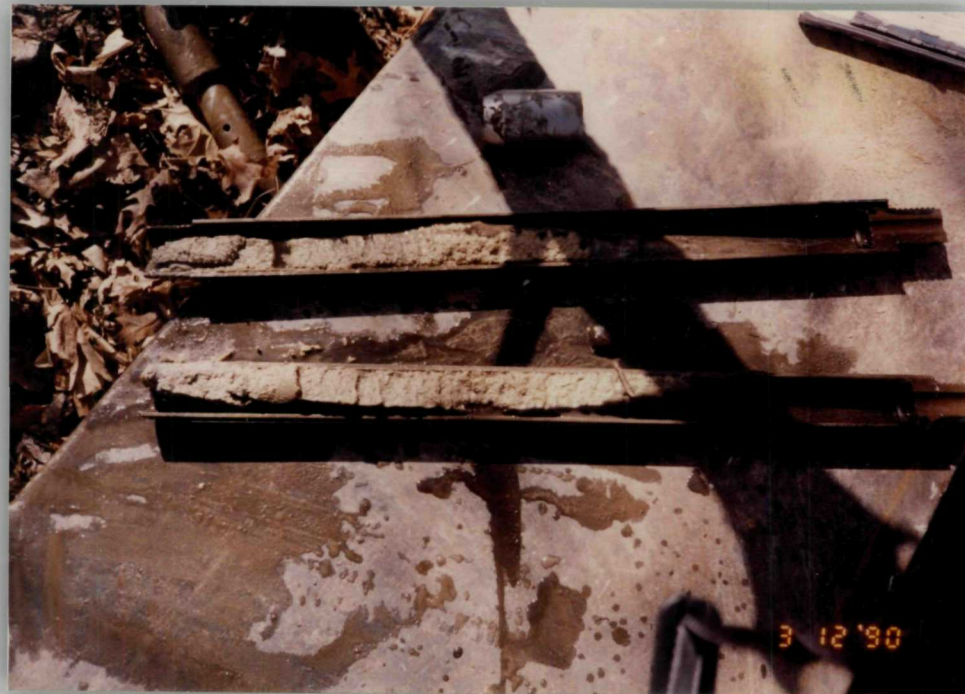
ROLL #11 PHOTOGRAPH LOG
AMERICAN CHEMICAL SERVICES
12 March to 16 March 1990

| <u>NUMBER</u> | <u>DESCRIPTION</u> | <u>DATE</u> |
|---------------|---|-------------|
| R11-1 | Location of MW-9. View to east. | 3/12/90 |
| R11-2 | Split spoon sample MW-9. 5 to 7 feet. | 3/12/90 |
| R11-2 | Split spoon sample MW-9. 10 to 12 feet. | 3/12/90 |
| R11-4 | Split spoon sample MW-9. 15 to 17 feet. | 3/12/90 |
| R11-5 | Split spoon sample MW-9. 17 to 18 feet. | 3/12/90 |
| R11-6 | Placing steel outer casing in boring for MW-9. View to west. | 3/12/90 |
| R11-7 | Split spoon sample MW-7. 21.5 to 23 feet. | 3/13/90 |
| R11-8 | Split spoon sample MW-7. 25 to 27 feet. | 3/13/90 |
| R11-9 | Split spoon sample MW-7. 27 to 29 feet. | 3/13/90 |
| R11-10 | Split spoon sample MW-7. 29 to 31 feet. | 3/13/90 |
| R11-11 | Split spoon sample MW-7. 31 to 33 feet. | 3/13/90 |
| R11-12 | Split spoon sample MW-7. 37 to 39 feet. | 3/13/90 |
| R11-13 | Split spoon sample MW-7. 39 to 41 feet. | 3/13/90 |
| R11-14 | ETI setting well MW-7. | 3/14/90 |
| R11-15 | Clay samples taken from MW-8. 23 to 34 ft. | 3/15/90 |
| R11-16 | Clay samples taken from MW-8. 23 to 34 ft. | 3/15/90 |
| R11-17 | Split spoon sample from MW-8. 34 to 36 ft. | 3/15/90 |
| R11-18 | Split spoon sample from MW-8. 37 to 39 ft. | 3/15/90 |
| R11-19 | Split spoon sample from MW-8. 39 to 41 ft. | 3/15/90 |
| R11-20 | Split spoon sample from MW-8. 43 to 45 ft. | 3/15/90 |
| R11-21 | Methane outgassing NW of off-site containment area. | 3/16/90 |

| <u>NUMBER</u> | <u>DESCRIPTION</u> | <u>DATE</u> |
|---------------|---|-------------|
| R11-22 | Seeps from slope NW of off-site containment area. | 3/16/90 |
| R11-23 | Seeps from slope NW of off-site containment area. | 3/16/90 |

20th Century Plastics
1-800-421-4662

STOCK # V84



R11-2

3 3 1 1-N 20 12 SSC

R11-1

3 3 1 1-N 20 12 SSC

R11-4

3 3 1 1-N 20 12 SSC

R11-3

3 3 1 1-N 20 12 SSC

20th Century Plastics
1-800-421-4662

STOCK # V84



R11-6

255 71 03 N-1 1 1 2

R11-5

255 71 03 N-1 1 2 2

R11-8

255 71 03 N-1 1 1 2

R11-7

255 71 03 N-1 1 1 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R11-10

255 71 03 N-1 1 N 2

R11-9

255 71 03 N-1 1 N 2

R11-12

255 71 03 N-1 1 N 2

R11-11

255 71 03 N-1 1 N 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R11-14

3 1 1 1-H 20 12 SSC

R11-13

3 1 1 1-H 20 12 SSC

R11-16

3 1 1 1-H 20 12 SSC

R11-15

3 1 1 1-H 20 12 SSC

20th Century Plastics
1-800-421-4662

STOCK # V84



R11-18

255 71 03 M-1 1 H 2

R11-17

255 71 03 M-1 1 H 2

R11-20

255 71 03 M-1 1 H 2

R11-19

255 71 03 M-1 1 H 2

20th Century Plastics
1-800-421-4682



STOCK # V84



R11-22

256 71 03 71 1 1 2

U777 / S6
W777 / S6
W777 / S6

W777 / S6
W777 / S6
W777 / S6

R11-21

256 71 03 71 1 1 2

R11-23

256 71 03 71 1 1 2

ROLL #12 PHOTOGRAPH LOG
AMERICAN CHEMICAL SERVICES
19 MARCH TO 26 MARCH 1990

| <u>NUMBER</u> | <u>DESCRIPTION</u> | <u>DATE</u> |
|---------------|--|-------------|
| R12-1 | Split spoon sample of MW-09, 23.5 to 25.5 feet. | 3/19/90 |
| R12-2 | Split spoon sample of MW-09, 25.5 to 27.5 feet. | 3/19/90 |
| R12-3 | Split spoon sample of MW-09, 27.5 to 29.5 feet. | 3/19/90 |
| R12-4 | Outer protective casing over piezometer P-27 and view of MW-9 location. | 3/20/90 |
| R12-5 | Mixing grout for MW-09. | 3/20/90 |
| R12-6 | WEI survey of MW-7, P-8 in background view to east. | 3/21/90 |
| R12-7 | Dave Jenkins of EWI and Tim Maley of WEI, survey at MW-8, view to north. | 3/21/90 |
| R12-8 | Taking water level measurement at P-27. | 3/21/90 |
| R12-9 | Split spoon sample of MW-10, 5 to 7 feet. | 3/21/90 |
| R12-10 | Split spoon sample of MW-10, 10 to 12 feet | 3/21/90 |
| R12-11 | Split spoon sample of MW-10, 12 to 14 feet | 3/21/90 |
| R12-12 | Split spoon sample of MW-10, 14 to 16 feet | 3/21/90 |
| R12-13 | Split spoon sample of MW-10, 16 to 17 feet | 3/21/90 |
| R12-14 | Drainage north of ACS, view to northeast. | 3/22/90 |
| R12-15 | Drainage north of ACS, view to south toward plant. | 3/22/90 |
| R12-16 | Drainage north of ACS, view to northwest down drainage. | 3/22/90 |
| R12-17 | Drainage north of ACS, drainage beside fence. | 3/22/90 |
| R12-18 | Mixing grout for MW-10. | 3/22/90 |
| R12-19 | Grouted outer casing of MW-10. | 3/22/90 |

20th Century Plastics
1-800-421-4662

STOCK # V84



R12-2
ACS

3/19/90

3 1 1 3-N 20 99 55X

R12-1
ACS

3/19/90

3 1 1 3-N 20 99 55X

R12-4
ACS

3/20/90

3 1 1 3-N 20 99 55X

R12-3
ACS

3/19/90

3 1 1 3-N 20 99 55X

20th Century Plastics
1-800-421-4862



STOCK # V84



R12-6
ACS

3/21/90

2 1 1 3-N 20 99 550

R12-5
ACS

3/20/90

2 1 1 3-N 20 99 550

R 12-8
ACS

3/21/90

2 2-1 3-N 20 99 550

R12-7
ACS

3/21/90

2 2-1 3-N 20 99 550

20th Century Plastics
1-800-421-4662



STOCK # V04



R12-10
ALS

3/21/90

3 3-1 3-N 20 99 55X

R12-9
ALS

3/21/90

3 3-1 3-N 20 99 55X

R12-12
ALS

3/21/90

3 3-1 3-N 20 99 55X

R12-11
ALS

3/21/90

3 3-1 3-N 20 99 55X

20th Century Plastics
1-800-421-4632



STOCK # V84



R12-14

ACS

3/22/90

2 3-1 3-N 20 99 55%

R12-13

ACS

3/21/90

2 3-1 3-N 20 99 55%

R12-16

ACS

3/22/90

2 3-1 3-N 20 99 55%

R12-15

ACS

3/22/90

2 3-1 3-N 20 99 55%

20th Century Plastics
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STOCK # V84



R12-18
ACS

3/22/90

R12-17
ACS

3/22/90

R12-19
ACS

3/22/90

Table 2

Roll #13 Photograph Log
American Chemical Services
26 March to 29 March 1990

| Number | Description | Date |
|--------|--|---------|
| R13-1 | Tracer 4 WD van south of drill rig set on MW-10A. View is to north. | 3/26/90 |
| R13-2 | Andy Hooper of Tracer applying vacuum to 1" steel pipe. | 3/26/90 |
| R13-3 | Split spoon sample of MW-10A, 17 to 19 feet; note bottom of clay layer at 18.9 feet. | 3/26/90 |
| R13-4 | Split spoon sample of MW-10A, 19 to 21 feet. | 3-26-90 |
| R13-5 | Split spoon sample of MW-10A, 21 to 23 feet; note HNu reading of 13 ppm. | 3/26/90 |
| R13-6 | Andy Hooper of Tracer obtaining groundwater sample GW-7 with portable pump. | 3/26/90 |
| R13-7 | Tracer cap system used to create vacuum. View to north-northwest. | 3/27/90 |
| R13-8 | ETI grouting MW-10A through 5" casing. | 3/27/90 |
| R13-9 | 6" casing grouted full, MW-10A abandoned. | 3/27/90 |
| R13-10 | Split spoon sample of MW-10B, 5 to 7 feet. | 3/28/90 |
| R13-11 | Split spoon sample of MW-10B, 10 to 12 feet. | 3/28/90 |
| R13-12 | Split spoon sample of MW-10B, 13 to 15 feet. | 3/28/90 |
| R13-13 | Split spoon sample of MW-10B, 15 to 17 feet. | 3/28/90 |
| R13-14 | Split spoon sample of MW-10B, 17 to 19 feet; 5" clay layer at top of spoon. | 3/28/90 |
| R13-15 | Split spoon sample of MW-10B, 19 to 21 feet. | 3/28/90 |
| R13-16 | ETI grouting abandoned MW-10B. | 3/28/90 |
| R13-17 | MW-10A in foreground, drill rig on MW-10 12 feet west. | 3/28/90 |
| R13-18 | Split spoon sample of MW-10, 5 to 7 feet. | 3/28/90 |
| R13-19 | Split spoon sample of MW-10, 10 to 12 feet. | 3/28/90 |
| R13-20 | Split spoon sample of MW-10, 13 to 15 feet. | 3/28/90 |
| R13-21 | Split spoon sample of MW-10, 15 to 17 feet; note, bottom 12" clay. | 3/28/90 |
| R13-22 | Tim Maley and Andy Hooper pushing 1" pipe to collect GW-24. View west from tracks. | 3/29/90 |
| R13-23 | Top - split spoon sample of MW-11, 17 to 19 feet; bottom complete split spoon sample of MW-11, 19 to 21 feet; note, bottom 8" gray clay. | 3/29/90 |
| R13-24 | MW-11, view north of Colfax Avenue and north railroad tracks. | 3/29/90 |

20th Century Plaster
1-800-421-4662

STOCK # V84



R13-3

255 26 03 N-2 1 N 2

R13-1

255 26 03 N-2 1 N 2

R13-4

255 26 03 N-2 1 N 2

R13-2

255 26 03 N-2 1 N 2

20th Century Plastics
1-800-421-4662



STOCK # V64



R13-7

255 26 03 M-2 1 1 2

R13-5

255 26 03 M-2 1 1 2

R13-8

255 26 03 M-2 1 1 2

R13-6

255 26 03 M-2 1 1 2

20th Century Plastics
1-800-421-4662

(STOCK # V84



R13-11

255 26 02 M-2 1 1 2

R13-9

255 26 02 M-2 1 1 2

R13-12

255 26 02 M-2 1 1 2

R13-10

255 26 02 M-2 1 1 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R13-15

255 26 02 N-2 1 1 2

R13-13

255 26 02 N-2 1 1 2

R13-16

255 26 02 N-2 1 1 2

R13-14

255 26 02 N-2 1 1 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R13-19

255 26 03 N-2 1 N 2

R13-17

255 26 03 N-2 1 1 2

R13-20

255 26 03 N-2 1 N 2

R13-18

255 26 03 N-2 1-1 2

20th Century Plastics
1-800-421-4662



STOCK # V84



R13-23

255 26 02 H-2 1-1-2

R13-21

255 26 02 H-2 1-1-2

R13-24

R13-22

255 26 02 H-2 1-1-2

ROLL #14 PHOTOGRAPHIC LOG
American Chemical Services
30 March to 2 April 1990

| <u>Number</u> | | <u>Date</u> |
|---------------|--|-------------|
| R14-1 | Split spoon samples of MW-12, top 15-17 feet, bottom 10-12 feet | 3/30/90 |
| R14-2 | Drill rig on monitor well MW-12, ACS in background view to northwest | 3/30/90 |
| R14-3 | Split spoon sample of MW-12, 19-21 feet | 3/30/90 |
| R14-4 | Split spoon sample of MW-12, 20.5-22.5 feet, note clay at 20.1 feet | 3/30/90 |
| R14-5 | Back end of Tracer Research Corp. van | 4/02/90 |
| R14-6 | Hydraulic punch | 4/02/90 |
| R14-7 | 10-foot section of 1-inch Schedule 40 steel pipe | |
| R14-8 | Aluminum cone advanced in tip of pipe | 4/02/90 |
| R14-9 | Pushing 1-inch pipe with cone tip to depth | 4/02/90 |
| R14-10 | Vacuum created in pipe after being raised off cone tip | 4/02/90 |
| R14-11 | Green pump in van used to create vacuum | 4/02/90 |
| R14-12 | Tubing pushed to depth in pipe | 4/02/90 |
| R14-13 | Pinch off tubing after drawing in water sample | 4/02/90 |
| R14-14 | Water sampled emptied into VAO vial | 4/02/90 |
| R14-15 | Head space drawn out of vial with syringe | 4/02/90 |
| R14-16 | Head space sample injected into gas chromatographer | 4/02/90 |
| R14-17 | Groundwater sample location marked | 4/02/90 |
| R14-18 | Split spoon sample of MW-10, 17 to 19 feet. Note upper clay layer from 15.7 feet | 4/02/90 |
| R14-19 | Split spoon sample of MW-10, 19 to 21 feet. Note bottom of clay layer at 20.0 feet | 4/02/90 |
| R14-20 | Split spoon sample of MW-10, 21 to 23 feet, note sand with odor | 4/02/90 |
| R14-21 | Split spoon sample of MW-10, 23 to 25 feet, note top of lower clay layer at 24.8 feet. | |
| R14-22 | MW-10 grouted in place, MW-10A in background, view to east | 4/03/90 |

20th Century Plastics
1-800-421-4662



STOCK # V84



R14-3

3 1 1 2-N 11 32 55%

R14-1

3 1 1 2-N 11 32 55%

R14-4

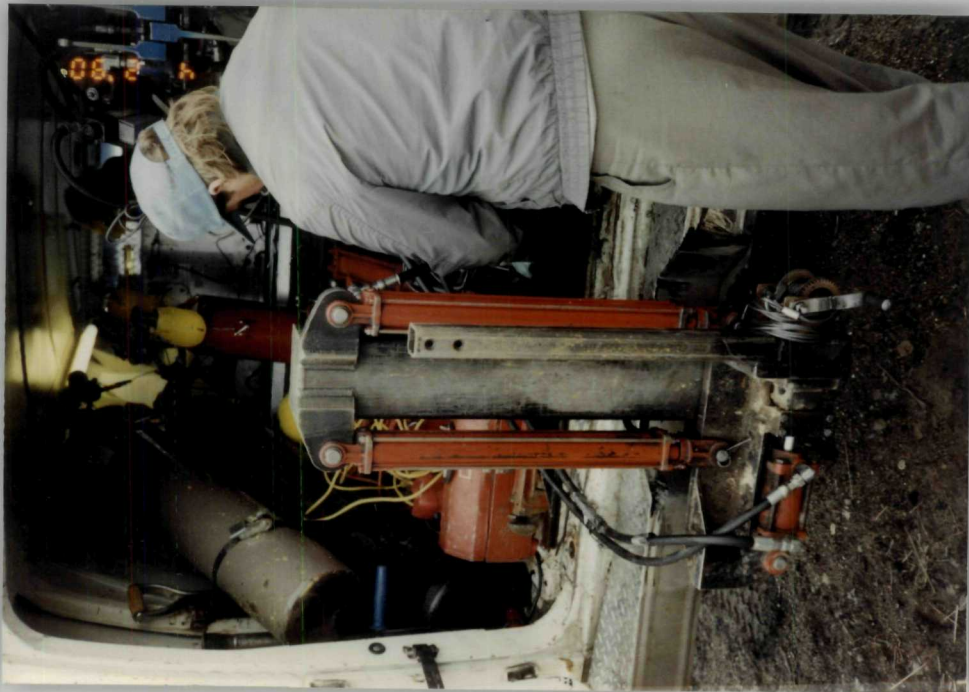
3 1 1 2-N 11 32 55%

R14-2

3 1 1 2-N 11 32 55%

20th Century Plastics
1-800-421-4662

STOCK # V84



R14-5

3 1 1 2-N 11 32 55X

R14-7

3 1 1 2-N 11 32 55X

R14-8

3 1 1 2-N 11 32 55X

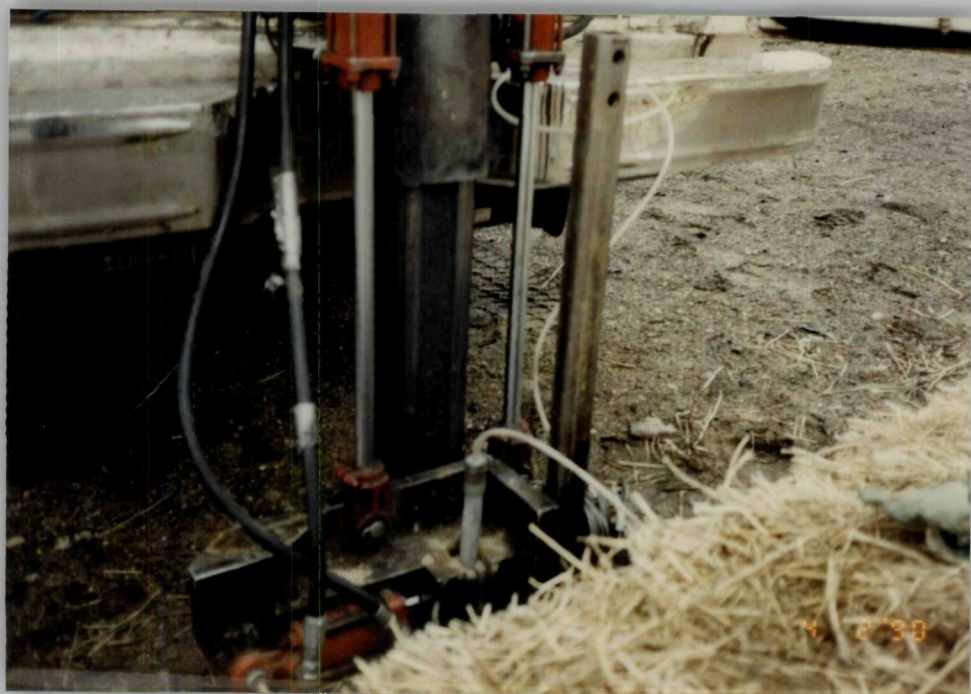
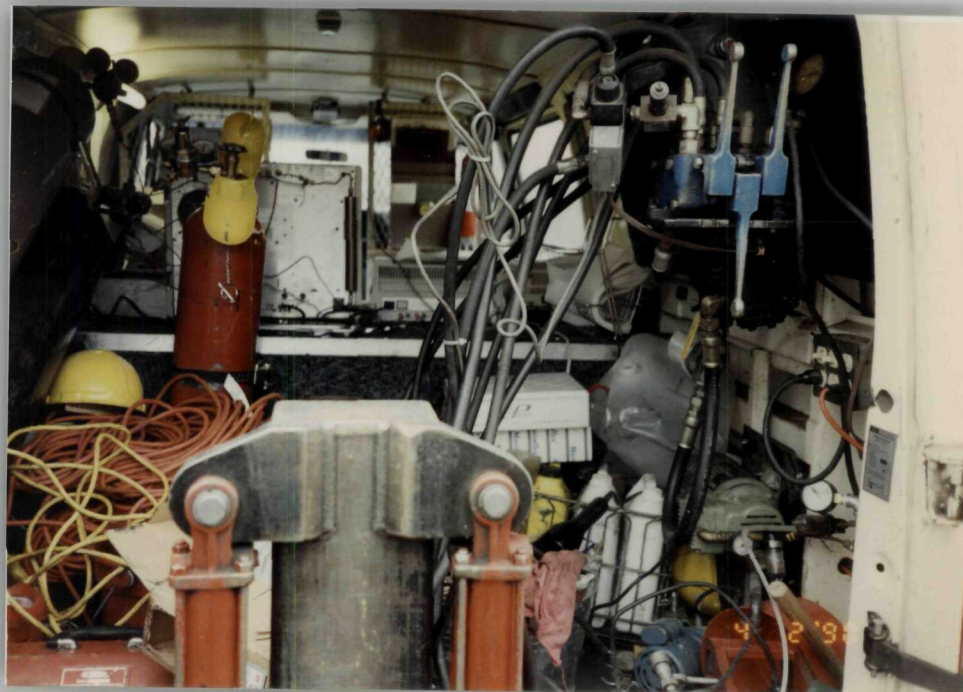
R14-6

3 1 1 2-N 11 32 55X

20th Century Plastics
1-800-421-4652



STOCK # V84



R14-11

0 1 1 0-N 11 02 55X

R14-9

0 1 1 0-N 11 02 55X

R14-12

0 1 1 0-N 11 02 55X

R14-10

0 1 1 0-N 11 02 55X

20th Century Plastics
1-800-421-4662



STOCK # V84



R14-15

Q 1 1 0-N 11 02 55X

R14-13

Q 1 1 0-N 11 02 55X

R14-16

Q 1 1 0-N 11 02 55X

R14-14

Q 1 1 0-N 11 02 55X

20th Century Plastics
1-800-421-4662

STOCK # V84



R14-19

3 1 1 3 4 11 32 55X

R14-17

3 1 1 3 4 11 32 55X

R14-20

3 1 1 3 4 11 32 55X

R14-18

3 1 1 3 4 11 32 55X



R14-21

Q 1 1 2-N 11 32 55X

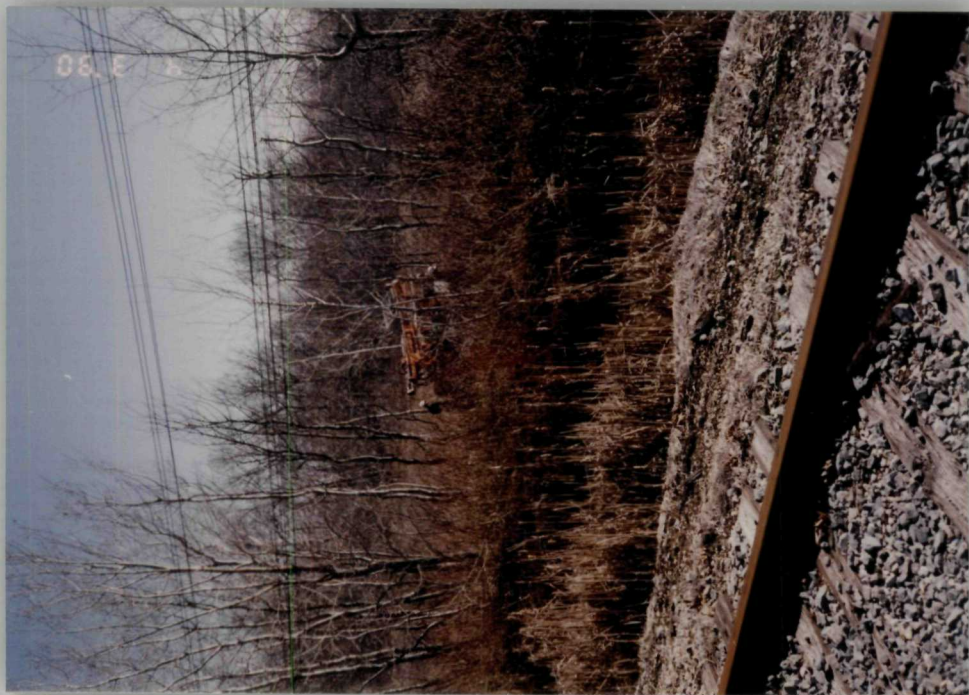
R14-22

Q 1 1 2-N 11 32 55X

ROLL #15 PHOTOGRAPHIC LOG (Cont.)
American Chemical Services
3 April to 5 April 1990

| <u>Number</u> | | <u>Date</u> |
|---------------|---|-------------|
| R15-1 | Setting up drill rig on MW-13, view to south from railroad tracks | 4/03/90 |
| R15-2 | Split spoon sample of MW-13, 5 to 7 feet | 4/03/90 |
| R15-3 | Split spoon sample of MW-13, 10 to 23 feet | 4/03/90 |
| R15-4 | Split spoon sample of MW-13, 15 to 17 feet clay layer estimated by auger resistance to be at 12.8 feet | 4/03/90 |
| R15-5 | Split spoon sample of MW-14, 5 to 7 feet | 4/04/90 |
| R15-6 | Split spoon sample of MW-14, 10 to 12 feet | 4/04/90 |
| R15-7 | Split spoon sample of MW-14, 15 to 17 feet, note clay encountered at 16.8 feet | 4/04/90 |
| R15-8 | MW-14 in foreground, MW-09 in background, view to southeast | 4/04/90 |
| R15-9 | Setting up drill rig on MW-15, view to southeast towards Colfax Avenue | 4/04/90 |
| R15-10 | Split spoon sample of MW-15, 5 to 7 feet | 4/04/90 |
| R15-11 | Split spoon sample of MW-15, 10 to 12 feet | 4/04/90 |
| R15-12 | Split spoon sample of MW-15, 15 to 17 feet clay layer estimated by auger resistance to be at 15.0 feet | 4/04/90 |
| R15-13 | Split spoon sample of MW-16, 5 to 7 feet | 4/05/90 |
| R15-14 | Split spoon sample of MW-16, 10 to 23 feet | 4/05/90 |
| R15-15 | Split spoon sample of MW-16, 15 to 17 feet note clay encountered at 16.8 feet | 4/05/90 |
| R15-16 | MW-16 grouted in place, view north towards ACS | 4/05/90 |
| R15-17 | Split spoon sample of MW-17, 5 to 7 feet | 4/05/90 |
| R15-18 | Split spoon sample of MW-17, 10 to 12 feet | 4/05/90 |
| R15-19 | Split spoon sample of MW-17, 15 to 17 feet | 4/05/90 |
| R15-20 | Split spoon sample of MW-17, 23.5 to 25 feet, note clay layer was not encountered, diesel fuel odor present | 4/05/90 |
| R15-21 | Drill rig on MW-17 on Roy Austgen's property, view west towards intersection of Colfax Avenue and Reder Road | 4/05/90 |
| R15-22 | Drill rig on MW-17, view east from intersection of Colfax Avenue and Reder Road. | 4/05/90 |
| R15-23 | MW-17, flush-mount casing | 4/05/90 |
| R15-24 | MW-17, flush-mount casing grouted in place | 4/05/90 |
| R16-1 | MW-10, Gas venting from well forcing water out vent holes in cap. Water is landing 3 to 4 feet away from well to the right, left, and towards back of photo. Water is forced out every 5 to 20 seconds, <u>Note</u> : 11 April 1990, Tim Maley (Warzyn) phoned Scott Koepsell (WESTON) to inform him MW-10 had been capped. | 4/06/90 |

20th Century Plastics
1-800-421-4662



STOCK # V84



R15-3

3 1 1 3-N 20 28 55X

R15-4

3 2 1 3-N 20 28 55X

R15-2

3 2 1 3-N 20 28 55X

R15-1

355 53 03 N-2 1 2 2

20th Century Plastics
1-800-421-4662

STOCK # V84



R15-7

3 1 1 3-N 20 28 55%

R15-5

3 1 1 3-N 20 28 55%

R15-8

3 1 1 3-N 20 28 55%

R15-6

3 1 1 3-N 20 28 55%



R15-11

3 1 1 3-N 20 28 55K

R15-9

3 1 1 3-N 20 28 55K

R15-12

3 1 1 3-N 20 28 55K

R15-10

3 1 1 3-N 20 28 55K

20th Century Plastics
1-800-421-4662

STOCK # V84



R15-15

3 1 1 3-N 20 28 55X

R15-13

3 1 1 3-N 20 28 55X

R15-14

3 1 1 3-N 20 28 55X

R15-16

3 1 1 3-N 20 28 55X



R15-18

3 1 1 3-N 20 28 55X

R15-17

3 1 1 3-N 20 28 55X

R15-20

3 1 1 3-N 20 28 55X

R15-19

3 1 1 3-N 20 28 55X

20th Century Plastics
1-800-421-4662
STOCK # PPV84



R15-23

3 N 1 3-N 20 28 55K

R15-21

3 N 1 3-N 20 28 55K

R15-24

3 N 1 3-N 20 28 55K

R15-22

3 N 1 3-N 20 28 55K

20th Century Plastics

1-800-421-4662

STOCK # PPV84



R16-1

2024-03-17 11:17:17

South Century Plastics
1-800-451-4665
STOCK # PPV84

WEEKLY REPORT
23 TO 27 APRIL 1990
AMERICAN CHEMICAL SERVICES

Date: 27 April 1990

Personnel: Tim Maley of Warzyn Engineering, Inc. (WEI); Rick Burns and Brian Carroll of Exploration Technology, Inc. (ETI); and Christopher W. Krumm, Roy F. Weston, Inc. (WESTON).

Activities: The primary activity this week was the setting of outer casing at new location of MW-10.

Comments: ETI set up at new location for MW-10 on 26 April 1990. Location was selected by Tim Maley and Dr. Pete Vagt of WEI. ETI drilled to 15 feet on 26 April 1990 using 4 1/4" I.D. (internal diameter) hollow stem augers (HSA). Dense gray clay was encountered at 13.8 feet. The boring log is given below. The HNu was malfunctioning so no HNu readings were recorded.

| <u>Depth</u> | <u>Type</u> | <u>Blows</u> | <u>Description</u> |
|---------------|-------------|--------------|--|
| 5 to 7 feet | SS | 6-9-12-14 | Wet, gray fine to coarse sand with trace to some gravel to 5.5 feet, then gray medium to fine sand, trace silt, with slight leachate odor. |
| 10 to 12 feet | SS | 7-14-22-23 | Wet gray fine sand, trace to some silt to 11.0 feet, then gradational layer of fine to coarser sand to 12 feet with fine gravel. |
| 12 to 14 feet | SS | 10-15-13-23 | Wet dark gray silty fine sand with trace fine to coarse gravel to 13.8 feet. Gray silty clay with trace fine sand, dense and moist. |
| 14 to 15 feet | SS | 7-8 | Gray silty clay, trace fine sand and fine gravel, dense and moist. |

On 27 April, ETI returned to location MW-10 and drilled out hole with 8 1/4" I.D. HSA to 14.5 feet. Set casing by pounding six-inch steel outer casing into clay from 14.5 to 15.5 feet. Grouted casing into the clay. Used five bags of Portland cement and one bag of Quick Gel (bentonite) in 40 gallons of water to make about 50 gallons of grout. The grout was tremied into borehole.

PHOTOGRAPHIC LOG
ROLL 17
AMERICAN CHEMICAL SERVICES

R17-1 View to north of MW-10 location

4/27/90

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PHOTOGRAPHIC LOG
ROLL 17
AMERICAN CHEMICAL SERVICES

| Photo | Description | Date |
|--------|---|---------|
| R17-2 | Split spoon sample, well MW-10(D) 13 to 15 feet | 4/26/90 |
| R17-3 | Split spoon sample, well MW-10(D) 19 to 21 feet | 5/1/90 |
| R17-4 | Split spoon sample, well MW-10(D) 21 to 23 feet | 5/1/90 |
| R17-5 | Split spoon sample, well MW-10(D) 23 to 25 feet | 5/1/90 |
| R17-5A | Split spoon sample, well MW-10(D) 33 to 35 feet | 5/1/90 |
| R17-6 | Ditch south of railroad, decomposition sheens | 5/1/90 |
| R17-7 | Ditch south of railroad, decomposition sheens | 5/1/90 |
| R-17-8 | Location of soil boring AM-01 | 5/2/90 |
| R17-9 | Split spoon sample, boring AM-01, 8 to 10 feet | 5/2/90 |
| R17-10 | Location of soil boring AM-02 | 5/2/90 |
| R17-11 | Split spoon sample, boring AM-02, 10 to 12 feet | 5/2/90 |



R17-3

2 2-N N N 30 88 55C

R17-02

2 2-N N N 30 88 55C

R17-5

2 1-N N N 30 88 55C

R17-4

2 2-N N N 30 88 55C

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R17-6

255 88 02 N N-1 2

R17-05A

255 88 02 N N-1 2

R17-8

255 88 02 N N-1 2

R17-7

255 88 02 N N-1 2

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R17-10

2 N N N N 00 88 550

R17-9

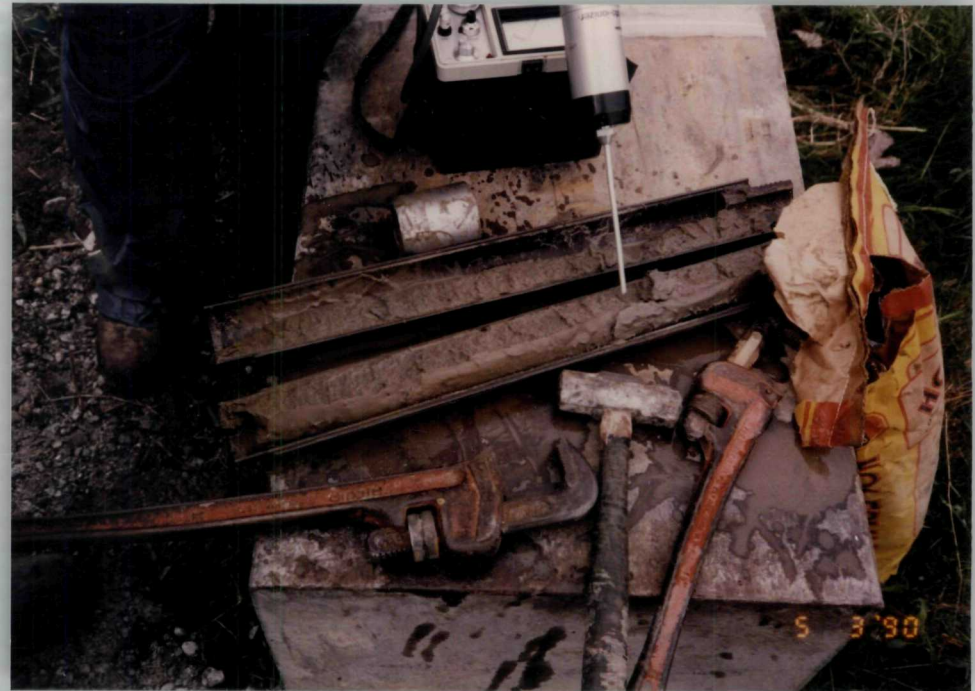
2 1-N N N 00 88 550

R17-11

2 0-N N N 00 88 550

PHOTOGRAPHIC LOG
ROLL 18
AMERICAN CHEMICAL SERVICES

| Photo | Description | Date |
|--------|---|--------|
| R18-01 | Location of soil boring AM-05 | 5/3/90 |
| R18-02 | Split spoon sample, boring AM-05, 10 to 12 feet | 5/3/90 |
| R18-03 | Location of soil boring AM-04 | 5/3/90 |
| R18-04 | Split spoon sample, boring AM-04, 10 to 12 feet | 5/3/90 |
| R18-05 | Split spoon sample, boring AM-04, 10 to 12 feet | 5/3/90 |
| R18-06 | Location of soil boring AM-03 | 5/3/90 |
| R18-07 | Split spoon sample, boring AM-03, 10 to 12 feet | 5/3/90 |
| R18-08 | Split spoon sample, boring AM-03, 15 to 16.5 feet | 5/3/90 |



R18-02

2011-11-17 15:52

R18-01

2011-11-17 15:52

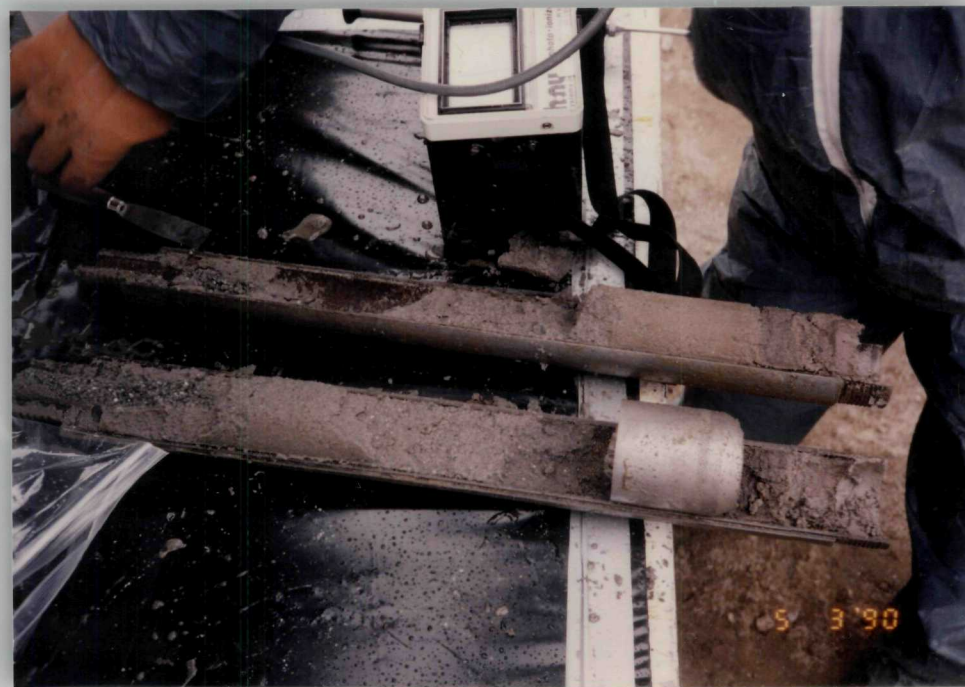
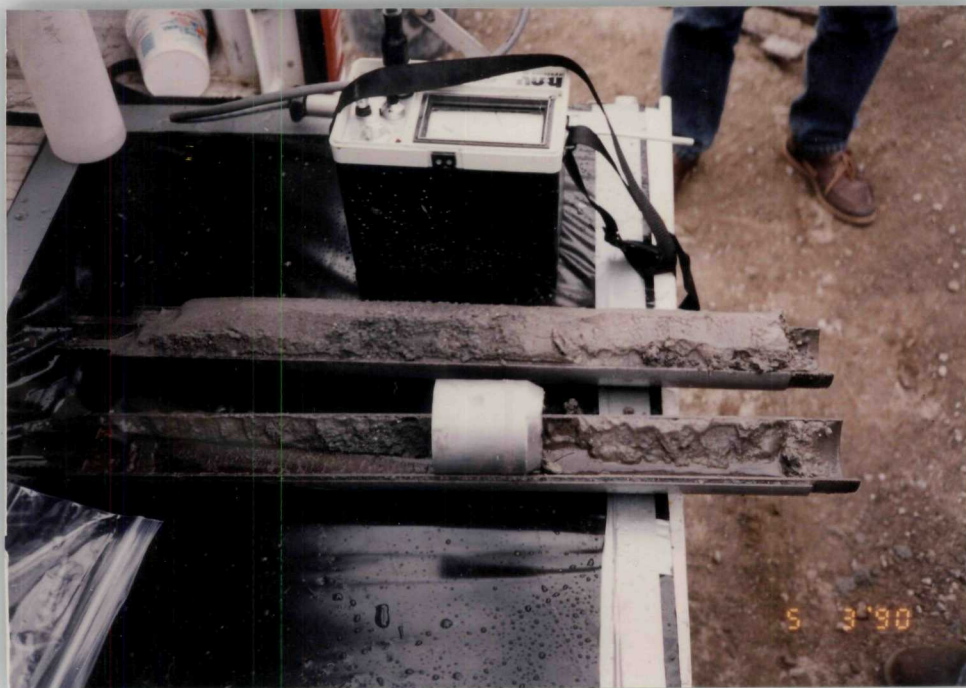
R18-04

2011-11-17 15:52

R18-03

2011-11-17 15:52

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R18-06

2 N N N N 20 08 35C

R18-05

2 N N N N 20 08 35C

R18-08

2 N N N N 20 08 35C

R18-07

2 N N N N 20 08 35C

**Photographic Log
Roll 18
American Chemical Services**

| <u>Photo</u> | | <u>Date</u> |
|--------------|---|-------------|
| R18-09 | Location of auger probe AP-45, view to east. | 5/7/90 |
| R18-10 | Auger probe AP-45 cuttings, 0 to 5 feet. | 5/7/90 |
| R18-11 | Location of auger probe AP-46, view to south. | 5/7/90 |
| R18-12 | Auger probe AP-46 cuttings, 5 to 10 feet (purple smear is photo defect). | 5/7/90 |
| R18-13 | Location of auger probe AP-47, view to south and first 5 feet of cuttings. | 5/7/90 |
| R18-14 | Auger probe AP-47 cuttings, 5 to 10 feet | 5/7/90 |
| R18-15 | Location of auger probe AP-48 and first 5 feet of cuttings. | 5/7/90 |
| R18-16 | Auger probe AP-48, 5 to 10 feet. | 5/7/90 |
| R18-17 | Auger probe AP-49, 0 to 5 feet | 5/7/90 |
| R18-18 | Auger probe AP-50, 5 to 10 feet. | 5/7/90 |
| R18-19 | Auger probe AP-51, 0 to 5 feet. | 5/7/90 |
| R18-20 | Auger probe AP-52, 0 to 5 feet. | 5/7/90 |
| R18-21 | Auger probe AP-53, 0 to 5 feet. | 5/7/90 |
| R18-22 | Split-spoon sample, soil boring SB-21, 5-7 ft. | 5/8/90 |
| R18-23 | Location of soil boring SB-21, view to north. | 5/8/90 |
| R18-24 | Split spoon sample, soil boring SB-21, 10 to 12 feet. | 5/8/90 |



R18-10

3 2-N N N 20 28 55X

R18-09

3 1-N N N 20 28 55X

R18-12

3 1 N N N 20 28 55X

R18-11

3 2-N N N 20 28 55X



R18-14

2000-00-00 00:00

R18-13

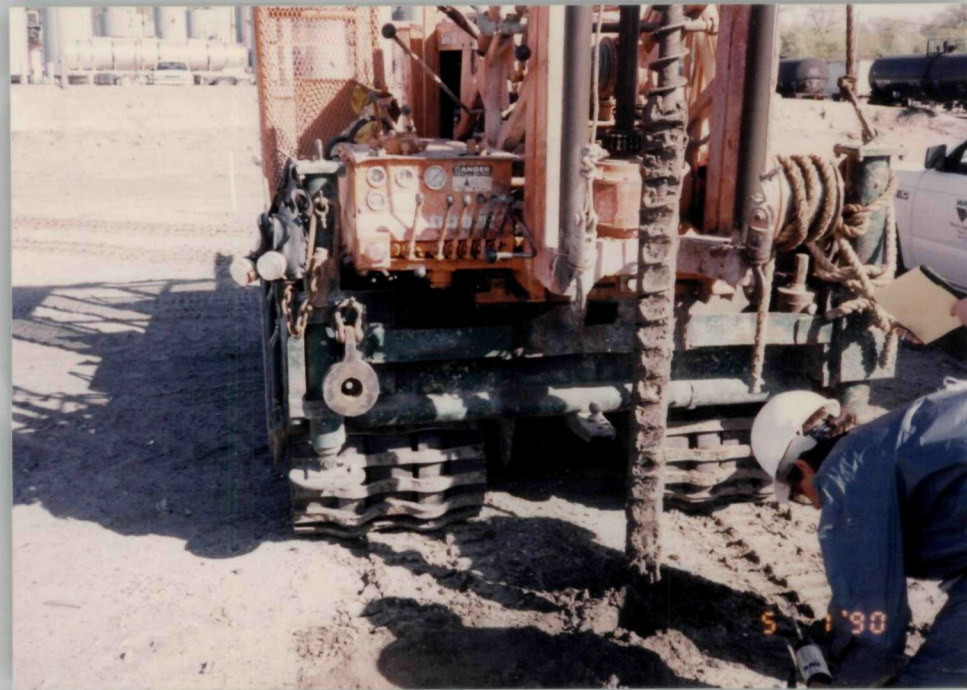
2000-00-00 00:00

R18-16

2000-00-00 00:00

R18-15

2000-00-00 00:00





R 18-22

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R 18-21

© 1994 N N CO DE SSC

R 18-24

© 1994 N N CO DE SSC

R 18-23

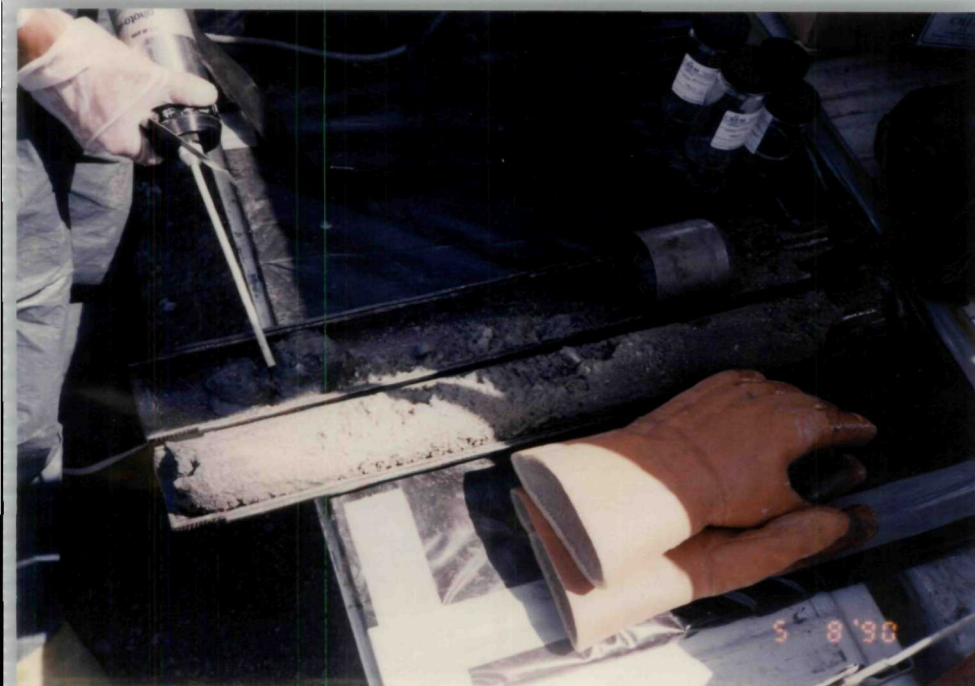
© 1994 N N CO DE SSC

**Photographic Log
Roll 19
American Chemical Services**

| <u>Photo</u> | | <u>Date</u> |
|--------------|--|-------------|
| R19-01 | Location of soil boring SB-23, view to north. | 5/8/90 |
| R19-02 | Location of soil boring SB-22, view to north. | 5/8/90 |
| R19-03 | Split spoon sample, soil boring SB-23, 10 to 12 feet. | 5/8/90 |
| R19-04 | Split spoon sample, soil boring SB-22, 10 to 12 feet. | 5/8/90 |
| R19-05 | Location of soil boring SB-35, view to north- east. | 5/8/90 |
| R19-06 | Split spoon sample, soil boring SB-35, 15 to 17 feet. | 5/8/90 |
| R19-07 | Location of soil boring SB-24, view to northeast. | 5/9/90 |
| R19-08 | Split spoon sample, soil boring SB-24, 11 to 13 feet. | 5/9/90 |
| R19-09 | Split spoon sample, soil boring SB-24 19 to 21 feet. | 5/9/90 |
| R19-10 | Location of soil boring SB-25, view to northeast. | 5/9/90 |
| R19-11 | Split spoon sample, soil boring SB-25, 9 to 11 feet. | 5/9/90 |
| R19-12 | Split spoon sample, soil boring SB-25, 19 to 21 feet. | 5/9/90 |
| R19-13 | Open borehole soil boring SB-25, buried drums visible. | 5/9/90 |
| R19-14 | Open borehole Soil boring SB-25, buried drums visible. | 5/9/90 |
| R19-15 | Split spoon sample, soil boring SB-26, 9 to 11 feet, solvent from sample on drum. | 5/9/90 |
| R19-16 | Split spoon sample, soil boring SB-26, 19 to 21 feet. | 5/9/90 |

**Photographic Log
Roll 19
American Chemical Services**

| <u>Photo</u> | | <u>Date</u> |
|--------------|--|-------------|
| R19-17 | Split spoon sample, soil boring SB-27, 9 to 11 feet. | 5/10/90 |
| R19-18 | Split spoon sample, soil boring SB-27, 19 to 21 feet. | 5/10/90 |
| R19-19 | Split spoon sample, soil boring SB-28, 6-8 ft. | 5/10/90 |
| R19-20 | Split spoon sample, soil boring SB-29A, 6-8 feet. | 5/10/90 |
| R19-21 | Split spoon sample, soil boring SB-29B, 6-8 feet. | 5/10/90 |
| R19-22 | Auger probe AP-55, 5 to 10 feet. | 5/10/90 |
| R19-23 | Soil boring SB-30B, 8 to 10 feet, blue-purple waste on spoon. | 5/10/90 |
| R19-24 | Split spoon sample, soil boring SB-30B, 8 to 10 feet, blue purple waste on spoon. | 5/10/90 |
| R19-25 | View of 100 by 200 foot area west of Kapica Drum. | 5/10/90 |
| R19-26 | View of 100 by 200 foot area west of Kapica Drum. | 5/10/90 |



R19-2

3 2-N N N 30 18 55X

R19-1

3 2-N N N 30 18 55X

R19-4

3 2-N N N 30 18 55X

R19-3

3 2-N N N 30 18 55X



R19-6

355 81 02 N N N 00 18 55%

R19-5

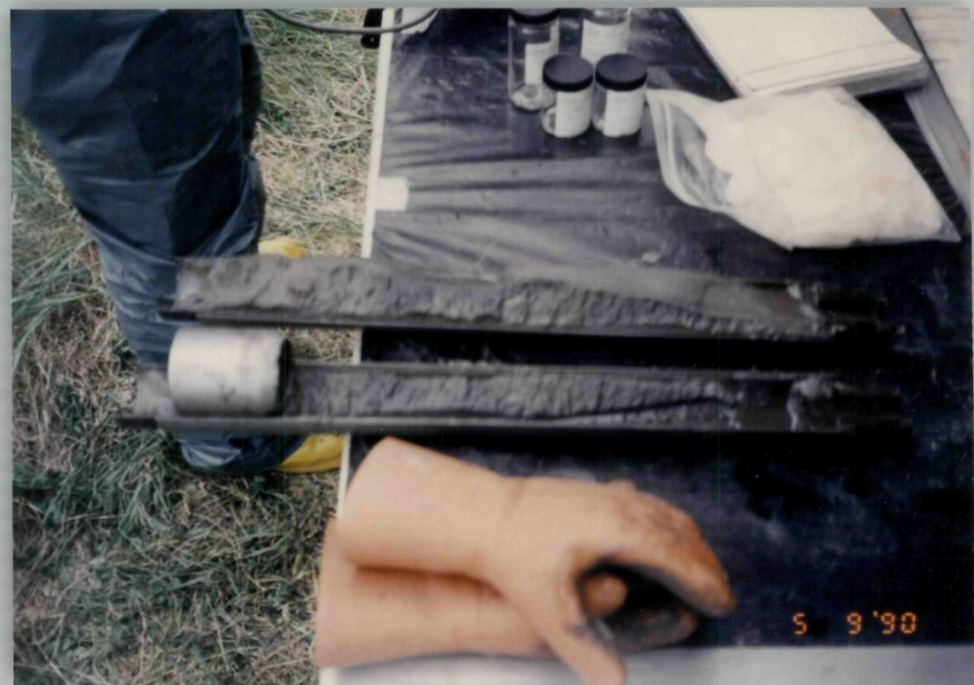
355 81 02 N N N 00 18 55%

R19-8

355 81 02 N N N 00 18 55%

R19-7

355 81 02 N N N 00 18 55%



R19-10

2 2-H N N 20 18 55X

R19-9

2 1-H N N 20 18 55X

R19-12

2 2-H N N 20 18 55X

R19-11

2 2-H N N 20 18 55X



R19-14

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R19-13

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R19-16

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R19-15



R19-18

2 N N N N 30 18 55C

R19-17

2 N N N N 30 18 55C

R19-20

2 N N N N 30 18 55C

R19-19

2 N N N N 30 18 55C



R19-22

2 1-N N N 30 18 55%

R19-21

2 1-N N N 30 18 55%

R19-24

2 1-N N N 30 18 55%

R19-23

2 1-N N N 30 18 55%

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R19-26

2 0-N N N 00 18 55%

R19-25

2 0-N N N 00 18 55%

PHOTOGRAPHIC LOG
ROLL 20
AMERICAN CHEMICAL SERVICES

| Photo | Description | Date |
|--------|--|---------|
| R20-1 | Tim Maley (WEI) purging MW-07 | 5/15/90 |
| R20-2 | Tim Maley filtering sample from MW-07 | 5/15/90 |
| R20-3 | Tim Maley filtering sample from MW-07 | 5/15/90 |
| R20-4 | Field parameters sample being measured for MW-07 | 5/15/90 |
| R20-5 | Tom Dushek (WEI) sampling MW-11S | 5/16/90 |
| R20-6 | Filtering sample from MW-13S | 5/16/90 |
| R20-7 | Tom Dushek filtering sample from MW-15S | 5/17/90 |
| R20-8 | Methane bubbling out of east side of Griffith Landfill near the sand pile | 5/17/90 |
| R20-9 | Clay piled near dewatering excavation at Griffith Landfill | 5/17/90 |
| R20-10 | Bulldozer removing clay in excavation at Griffith Landfill | 5/17/90 |
| R20-11 | Tim Maley collecting an equipment blank | 5/17/90 |

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R20-2

2 1-N H N 30 29 55X

R20-1

2 1-N H N 30 29 55X

R20-4

2 1-N H N 30 29 55X

R20-3

2 1-N H N 30 29 55X

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R20-6

2 1-H N N 30 29 95X

R20-5

2 1-H N N 30 29 95X

R20-8

2 1-H N N 30 29 95X

R20-7

2 1-H N N 30 29 95X

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R20-10

3 2-N N N 30 29 SSX

R20-9

3 2-N N N 30 29 SSX

R20-11

3 2-N N N 30 29 SSX